REMARKS

The Official Action of December 7, 2004 has been carefully considered. Applicant appreciates the Examiner's thorough review of the application. The following remarks, are believed sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

Applicant would like to also remind the Examiner that the currently pending Official Action was deemed FINAL, however the Examiner agreed in a telephone conversation with Applicant's counsel on February 7, 2005 that said finality was improper and agreed to remove the finality when this response was received. Applicant wishes to thank the Examiner for removing the finality of the Official Action.

Claims 1-24 and 26-34 stand pending in this application and claims 2-5, 10, 11 and 13-19 are currently withdrawn from consideration (Once again, Applicant wishes to clarify that the Examiner appears to have included claim 23 as being withdrawn in the Office Action summary, but did not so indicate in the Official Action, as such Applicant believes this was inadvertent and therefore believes claim 23 has not been withdrawn). As set forth below, it is believed that claims 1-24 and 26-34 are in condition for allowance.

In the Official Action, the Examiner rejects claims 1, 6-9, 12, 21-24, 26, 28-30 and 34 under 35 U.S.C. §102(b) as being clearly anticipated by Grage U.S. Patent No. 3,110,993 (hereinafter referred to as "Grage"). Applicant respectfully traverses this rejection for the reasons stated more fully below.

Claim 1 recites a machining device for machining a surface of a workpiece including a tool and a fluid delivery system. The tool is at least partially formed from an abrasive material having an open cell porous structure, the tool includes a rotational axis and an outer surface disposed about the rotational axis, the outer surface includes a workpiece interface

adapted to interface with and machine a surface of a workpiece. The fluid delivery system delivers fluid to the workpiece interface. The fluid delivery system is stationary and operative to disperse fluid to contact the tool primarily at a location inboard from the outer surface and to deliver the fluid into the tool for transmission into and through substantially the entire open cell porous structure of the tool to the workpiece interface.

Claim 22 recites method steps which include the steps of: providing a stationary fluid delivery system, dispersing fluid from the fluid delivery system such that the fluid is delivered into substantially the entire open cell porous structure of the tool after contacting the tool primarily at a contact location inboard from the outer surface of the tool, and rotating the tool about the rotational axis such that fluid is transmitted through substantially the entire open cell porous structure of the tool to the workpiece interface.

Independent claim 34 recites a machining device for machining a surface of a workpiece. The machining device includes a tool, a fluid delivery system, and a deflection member. The tool is at least partially formed from an abrasive material having an open cell porous structure. The tool includes a rotational axis and an outer surface disposed about the rotational axis. The outer surface includes a workpiece interface adapted to interface with and machine a surface of a workpiece. The fluid delivery system is for delivering fluid to the workpiece interface. The fluid delivery system is operative to disperse fluid to contact the tool primarily at a location inboard from the outer surface and to deliver the fluid into the tool for transmission into and through substantially the entire open cell porous structure of the tool to the workpiece interface. The deflection member assists in directing fluid to the contact location.

Grage fails to disclose a tool having an outer surface disposed about the rotational axis, where the outer surface includes a workpiece interface, such that the fluid delivery system disperses fluid being transmitted into and through substantially the entire open cell

porous structure of the tool to the workpiece interface. The Grage reference also fails to disclose further limitations of claim 27 that requires modifying parameters of the fluid delivery device to compensate for changes in material characteristics of the tool in order to assist in maintaining proper dispersal of fluid from the open cell porous structure of the machining zone.

Rather, the Grage reference discloses grinding wheels, particularly related to grinding wheels used on portable grinders used in the finishing of granite and other stone surfaces (column 1, lines 10-13). Grage discloses that the downwardly facing edge of the side wall provides the work performing surface of the grinding wheel (column 2, lines 10-13 and Fig. 2). Moreover, Grage teaches preventing the release of liquid from the side wall due to centrifugal force by coating the side wall with a liquid-impervious substance (column 2, lines 54-65).

The claims in the present application, however, recite a fluid delivery system being stationary and operative to disperse fluid to contact the tool primarily at a location inboard from the outer surface and to deliver the fluid into the tool for transmission into and through substantially the entire open cell porous structure of the tool to the workpiece interface. The outer surface is about the rotational axis of the tool and includes the workpiece interface. The Grage reference, in contrast, discloses having the liquid pass out of the downwardly facing edge of the grinding wheel (i.e., the work performing surface) (column 2, lines 10-13 and Fig. 2). Moreover, Grage teaches coating the side wall of the grinding wheel to prevent the release of liquid from the side wall so that the liquid passes through the downwardly facing edge (column 2, lines 54-65). Accordingly, Applicant respectfully requests reconsideration and allowance of claims 1, 6-9, 12, 21-24, 26, 28-30 and 34.

Claims 32 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Grage. The Examiner asserted that Grage discloses that the tool is abrasive and that it would

have been obvious to one of ordinary skill in the art to consider using a superabrasive material with such a tool. Applicant respectfully traverses this rejection. As discussed above for claim 1, from which claims 32 and 33 depend, the machining device is not anticipated by Grage, and the teachings of Grage do not overcome those deficiencies set forth above, as such, Applicant respectfully requests reconsideration and allowance of claims 32 and 33.

Claims 20, 27 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Grage in view of Wohlmuth U.S. Patent No. 4,438,598 (hereinafter referred to as "Wohlmuth"). However, Applicant submits that claims 20, 27 and 31 are nonobvious over Grage in combination with Wohlmuth. Accordingly, this rejection is traversed and reconsideration is respectfully requested. As discussed above claims 1 and 22 from which claims 20 and 31 depend are not anticipated by Grage and the teachings of Wohlmuth do not overcome those deficiencies set forth above, as such, Applicant respectfully requests reconsideration and allowance of claims 20 and 31.

With respect to claim 27, it is respectfully set forth that Grage alone or in combination with Wohlmuth does not teach or suggest modifying parameters of the fluid delivery device to compensate for changes in material characteristics of the tool in order to assist in maintaining proper dispersal of fluid from the open cell porous structure at the machining zone. For example, as set forth in Applicant's specification on page 11, lines 18-21, the contact location of the fluid may be adjusted to compensate for material wear of the abrasive material. However, Wohlmuth teaches adjusting the temperature of a coolant material once the temperature the tool has become too hot (col. 4, lines 2-5). Thus, the disclosures in Wohlmuth do not overcome the failings of Grage. Particularly, the present inventive method recites maintaining proper dispersal of fluid from the open cell porous structure at the machining zone, while Grage alone or in combination with Wohlmuth fails to teach maintaining such a proper dispersal of the cooling fluid from the open cell porous structure.

Accordingly, Grage alone or in combination with Wohlmuth apparently fails to provide any teaching or suggestion to modify the parameters of a fluid delivery device to compensate for changes in material characteristics of a tool in order to assist in maintaining proper dispersal of fluid from an open cell porous structure as required by claim 27. Accordingly, for these reasons, Applicant respectfully request reconsideration and allowance of independent claim 27.

It is believed that the above represents a complete response to the Examiner's claim rejections, and therefore places the present application in condition for allowance. Applicant further requests reconsideration and allowance of claims 2-5, 10, 11 and 13-19 that were previously withdrawn by the Examiner since these claims depend directly or indirectly from allowable claim 1. Reconsideration and an early allowance of claims 1-24 and 26-34 is therefore respectfully requested.

Respectfully submitted,

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